Exploration

What did "exploration" mean for the people and places that make up the land we call North Carolina 1500 and 1600s? And how do those explorations impact our lives today? Understanding the "who," "how," "when," "where," and "why" of the period of exploration and discovery adds meaning to our appreciation of who we are as Tar Heels today. "Discover" the peoples already here when explorers arrived to this "new" world, and engage with primary sources that help us walk a mile, or sail a league with people who were part of the age of exploration.

In this educational packet:

- Read "The Problem with Maps" information excerpt from the Colonial and American Revolution History-In-a-Box kit.
- Create your own "cootie catcher" to brush up on your map vocabulary.
- Try your hand at creating your own map, with a fruit-peel globe.
- Review "Discovering North Carolina" information excerpt from the Colonial and American Revolution History-In-a-Box kit.
- Match up vocabulary!
- Read "The Roanoke Voyages" information excerpt from the Colonial and American Revolution History-In-a-Box kit.
- Recreate one of the only signs left by members of the Lost Colony.
- Explore John White and his work by reading "The Art of John White" from the Fall 2007 issue of the *Tar Heel Junior Historian* Magazine.
- Answer discussion questions from the article to test your knowledge!

The Problem with Maps

How do you "discover" a land that's already here?

The next time you take a trip, imagine if there were no Siri, no road signs, no directional signals in your car, no Global Positioning System (GPS), no map. You don't know which direction you are headed, how far away your destination is, or even where you are on the globe. Welcome to travel in the 1500s! For many of us, a family vacation or trip starts with directions on our phones, a GPS setting, or a map. We follow highways that are marked with directions, mileage signs, and instructions to different towns and cities. For the men who wanted to explore the world in the 1500s, travel began with geometry—that most necessary knowledge of navigation by positioning of the stars and sun. Instruments of navigation had to be invented, and ideas about the known world discarded, as brave and intelligent men traveled to explore and discover.

Do you know the problem with maps?

Maps are flat representations of a round world and placing a drawing of the world on paper always distorts it. Still, maps have been around for thousands of years, and improvements in mapping—such as Mercator projection—were useful but still flawed. Explorers needed to know their direction, latitude, and longitude to find locations and to return home. Determining direction: While the compass had been around for centuries (invented by the Chinese in the 1100s), magnetic north varies from true north, and determining the difference between the two was not easy. Latitude was determined by sailors, who measured the angle of known stars and constellations in relation to the horizon using a cross arm or astrolabe. Longitude was even harder to determine.

Sailors could multiply the ship's speed by the time they had sailed. But clocks were inaccurate, and measuring speed was not always reliable. Still, they did it, and it is a testament to their curiosity, intelligence, and bravery that the early explorers left their known waters to sail to the unknown "New World." Of course, the "New World"—by that they meant North and South America—was not new at all, especially not to the thousands of people living here, but it was new to the European explorers, hence the name.

The Mercator Miracle

While it was widely known that the earth is spherical, creating a flat map of a round globe was challenging. Gerardus Mercator created a new representation, or projection, of the earth based on a cylinder. If a tube or cylinder of paper wrapped around the earth and the land forms are projected onto the paper, and then it is unfolded, that is the Mercator map. It is most correct at the equator, where the tube "touches" the earth. Lands farther from the equator are "stretched" out of shape. Mercator also used a grid system where compass directions are straight lines, which made it excellent for navigating. As long as sailors held true north, they could use the map easily.

The Problem with Maps
Cootie Catcher

Create the "Map Cootie Catcher," following the directions on the following page.

To play:

- One partner picks a word: Map, Globe, Earth, or Directions.
- The partner holding the Cootie Catcher spells out the word, moving the flaps side to side and in and out with the letters.
- The other partner then chooses one of the inside numbers.
- The partner holding the Cootie Catcher moves the flaps to that number.
- The other partner chooses another number.
- The partner holding the Cootie Catcher reads the definition for the other partner to respond with the correct term.

Instructions:

Cut along the edges of the Cootie Catcher.

Fold along the horizontal and vertical lines.

Fold each corner to the center, then flip the text down on the desk.

Fold each corner to the center and flip back over.

Fold each corner to the center.

Fold in half, and put your fingers under the flaps.

DIRECTIONS

The most commonly used map with continents & oceans nearly their true shapes & sizes; however, the poles are flat lines.

3.

Robinson Projection

A map showing government boundaries of countries, states, counties, and cities.

4.

Political Map

Physical Map

A map showing landforms like mountains, deserts, and plains.

5.

GLOBE

A map that uses straight and parallel lines but stretches out land near the poles.

6.

Mercator Projection

Topographic Map

A map that uses contour lines to show the elevation of the surface from sea level.

7.

MAP

A spherical map where all points on the map are at the right distances from the center point.

8.

Azimuthal Projection

Interrupted Projection

Map showing the continents as accurately as possible by leaving blank space in less important areas, such as in the oceans.

1.

Cylindrical Projection

A type of map that projects the globe onto a cylinder that can be unrolled without stretching or tearing.

2.

EARTH

The Problem with Maps
Fruit-Peel Map

Now that you've read "The Problems with Maps," let's try a fruit-peel map!

For this activity, you'll need:

- A grapefruit or orange
- Permanent marker
- Plastic knife
- Paper towels for mess

Cartographers had a difficult time trying to make a flat map depict a round globe. To simulate the difficulty of flattening a sphere's surface perfectly, you're going to try peel your piece of fruit.

1. Using the marker, identify and mark on the fruit the locations of the North Pole and South Pole.
2. Now locate the spot that is halfway between the two poles, and use a marker to draw a line around the earth at that point, which geographers refer to as the equator.
3. Draw a few lines of longitude on the map.
4. Next, draw shapes to represent the continents on the earth.
5. Either you, or with the help of an adult, to cut "your globe", starting at the stem end and making a cut halfway around the grapefruit to the opposite spot.
6. Carefully work your fingers around and under the edges of the skin and peel, keeping it in one piece if possible. Try to keep as much of the "globe" intact as possible. •
7. Your challenge now is to create a map that is flat and readable from the outside peel of your fruit.

A few things to think about:

- What kinds of problems are you having?
- Is your map difficult to read?
- What does your "world" look like now, compared to the way it did when it was still round? It's difficult to flatten a curved surface without some pulling and pushing, or even cutting.

"Discovering" North Carolina

What's wrong with this picture?

To begin with, most likely you're not on it. There wouldn't have been anything wrong with a world map without the Americas for 15th-century sailors, and in fact, it was Christopher Columbus's belief that the Indies (China, India, and Japan) would be a short sail westward from Europe that sent him hunting for financial backers for his adventure.

Why sail off the edge of the world, anyway?

Salt. You try eating all your food without salt, pepper, or other spices. Many Europeans in the 1400s desired the luxury goods that came to them from the Indies. Getting spices, silks, and other such items to Europe required long, expensive, and dangerous journeys over land. Salt was also valued for its ability to preserve foods. Columbus wanted to show that trade with these places would be easier by sailing west to get to the east. And if the world had been as he believed, he would have been right. With 87 men, in three ships, Columbus sailed west, expecting to get to the Indies. Instead, he "bumped" into the islands now called the Bahamas, Cuba, and Hispaniola. Thinking he was near the Indies, Columbus called the people he found there "Indians." Columbus never realized he had not found a route to the East but had opened a "new world" to Europeans.

With their huge ships, called galleons, and Columbus's claim to most of the Western Hemisphere on behalf of Spain, the Spanish were in a better position than other nations to explore and exploit these new lands. The Englishman John Cabot followed Columbus and explored the coast of North America in 1497, almost to North Carolina, claiming it and other lands for England. A few years later, in 1525, Giovanni da Verrazzano claimed much of North America for the French. Europeans did not recognize the rights of people with less technology and different cultures than their own, and they believed the lands and resources here were theirs for the taking. No matter the claims, it was the actions that determined who "possessed" or controlled an area of land.

We're not the Indies, so why bother?

Well, there could be salt here, too, or GOLD! Or other commodities that would sell well back home. Columbus started a sugar plantation on the island of Hispaniola, enslaving the Native peoples there to do the work. But soon, he turned to importing enslaved people from Africa, as the Native peoples, some 2 million, died. Yes, some 2 million people on Hispaniola died from smallpox, a disease for which they had no immunity. This disease, and others new to people here, was brought unknowingly to them by the Europeans.

In the century following Columbus's voyages, Europe's seagoing nations recognized the possibilities of a new continent, and still sought to find a passageway to India. England was somewhat of a latecomer to the race for the New World. By the time the English began to send out voyages of exploration, Spain had already entered what is now Florida (St. Augustine in 1565) and Mexico. Queen Elizabeth of England knew she needed to expand England's territories and resources to keep up with the balance of power. So explorers were sent—she didn't want the Spanish to take North America, too! However, neither the Spanish nor the English were the first to explore this land. In fact, around the year 1000, the Vikings from Scandinavia, led by Leif Eriksson, established a colony in North America in Newfoundland. This was abandoned, however, and the knowledge they gained was lost in the centuries that followed.

"Discovering" North Carolina Vocabulary

Match the following vocab words!

1. _____ galleon
2. _____ exploit
3. _____ technology
4. _____ immunity
5. _____ smallpox
6. _____ expedition
7. _____ outpost
8. _____ founder
9. _____ phenomenon
10. _____ subjugate

A. advanced or specialized systems or devices

B. to bring under control: to conquer

C. a large, three-masted sailing ship used from the 15th to 17th centuries (especially by Spain)

D. having resistance to disease or illness

E. one who establishes something

F. a viral disease that is highly contagious. Smallpox brings fevers, weakness, and skin breakouts, with pustules that leave scars after they are sloughed off the body.

G. a small military station or base established in another land

H. a journey with a definite objective

I. an unusual or significant occurence

J. to use selfishly for one's own purposes

1.C, 2.J, 3.A, 4.D, 5.F, 6.H, 7.G, 8.E, 9.I, 10.B

The Roanoke Voyages, 1584-1590

The Spanish visited this land often. Why did North Carolina end up as an English colony?

Although the Spanish initially dominated the exploration of North America, they could not provide sufficient manpower and supplies to maintain a hold on the lands they had claimed. Plus, by the late 1500s, England was better able to supply and defend new colonies. Elizabeth became queen in 1563, ushering in a period of stability and a strong sense of nationalism and optimism. After years of civil war, England was ready to look outside its borders for land and wealth and to challenge Spain's domination.

Queen Elizabeth of England knew she needed to expand England's territories and resources to keep up with the balance of power. The rise of an English middle class created a demand for luxury items. Using privateers (private ships with licenses from a ruler to steal from enemy ships), England hoped to slow Spain and claim lands and routes of its own. Privateers cost the government nothing in the way of ships and men because the risk was assumed by private owners.

Who did Elizabeth send to create a colony?

If you know the name of our state capital, you know his name. England's attempts to settle in the New World began with Queen Elizabeth enlisting Sir Walter Raleigh to launch an expedition "to inhabit and possess" any lands not already claimed by Spain or France. This was part of the global power struggle between Catholic Spain and Protestant England. Queen Elizabeth believed that if England could get a foothold in America, it would be possible to cut off the flow of gold, silver, and sugar that fueled Spain's domination and threatened England's security.

When did Sir Walter Raleigh visit North Carolina?

He didn't. In 1584 Raleigh sent off an expedition to North America. In late summer, this group, led by Captains Philip Amadas and Arthur Barlowe, landed on the coast of North Carolina. They located a defensible settlement site, an island the natives called Roanoke. On this expedition was artist John White, who made watercolor drawings and wrote detailed descriptions of what he found. The expedition soon returned to England with accounts of a land full of potential for colonization. Traveling with the group were two Indians: Manteo, a Croatoan, and Wanchese, of the Roanoke tribe.

Raleigh immediately set up his second expedition. In July 1585, Sir Richard Grenville, with 107 men, returned to Roanoke Island to establish a colony with Ralph Lane as commander. The expedition included Manteo and Wanchese, scientist Thomas Harriot, and John White. Harriot and White documented the natural history of North Carolina, providing descriptions and illustrations of the land and the people. White brought an artist's perspective to the New World. His careful eye and colorful drawings of the peoples, flora, and fauna provided a window on this land. His drawings depict families, leaders, priests, villages, food, and abundance. They send a message of possibilities

for settlement here. Thomas Harriot's scientific view of the world is evident in the report he wrote accompanying White's images. He wrote about potential—potential crops, hunting, and livelihoods—while noting the wealth of natural products available to newcomers.

The English quickly became dependent on the Indians for food and supplies. But the diseases they brought resulted in widespread sickness and death among the Native people. When Wingina, chief of the Roanoke tribe, eventually withdrew his support to protect his people, Lane and his men attacked the Roanoke, killing Wingina. Within a few weeks, Sir Frances Drake, a privateer for the queen, arrived on the island. Low on food and threatened by continuing hostilities with the local Indian tribes, Lane and his men abandoned the fort and returned to England with Drake. Soon after their departure, Grenville returned to the Roanoke colony and found it abandoned. He left 15 men with a two-year supply of food to hold the fort.

Was that the "Lost Colony"?

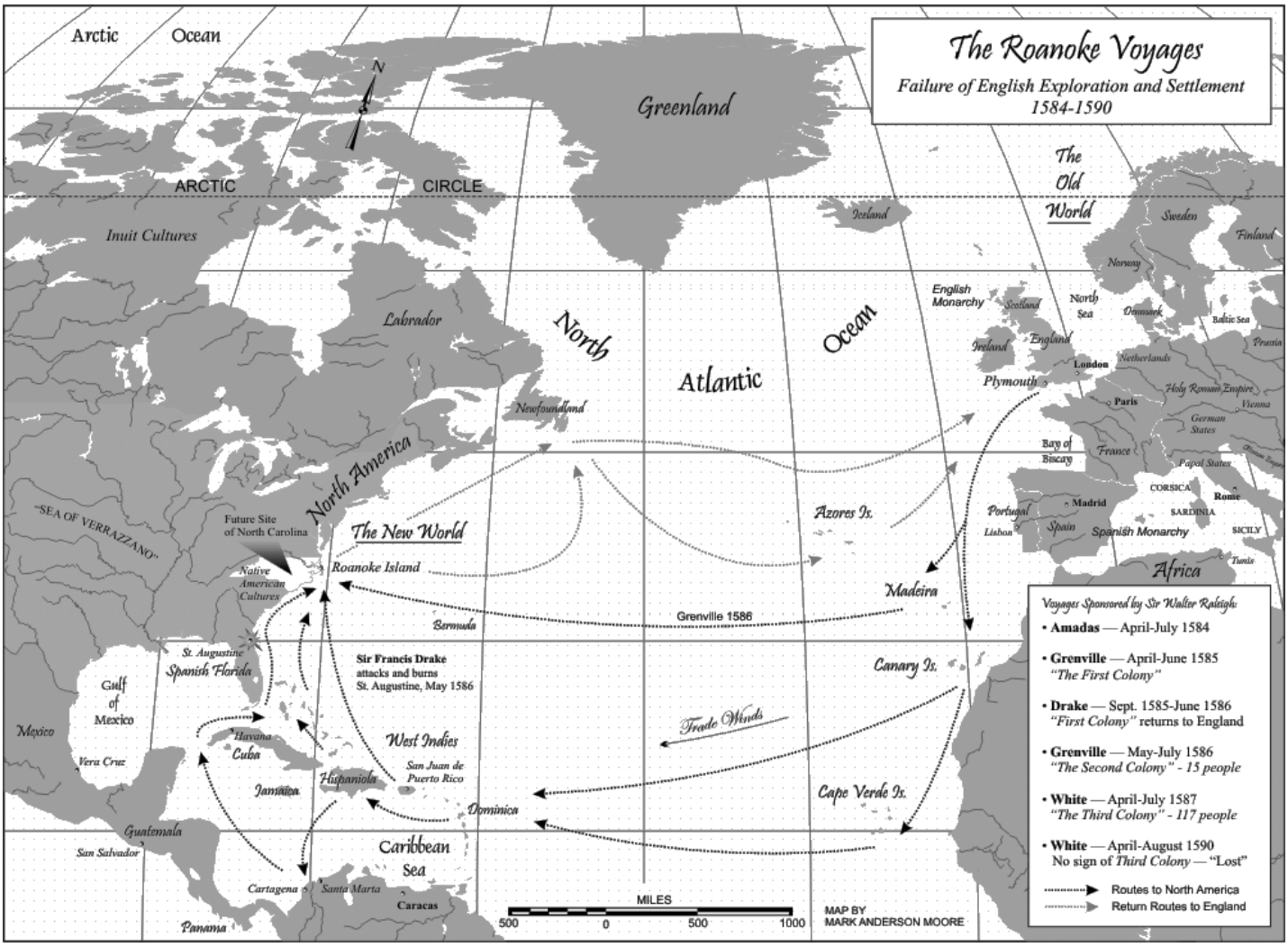
It was *a* lost colony. Raleigh's next expedition, which set sail in April 1587, was composed of 116 men, women, and children sent to establish a permanent colony. John White led this group of settlers. The colonists stopped on Roanoke Island to resupply and head north, but when they arrived, they found an abandoned fort and no sign of the 15 men who had been left there. White's colony moved into the Roanoke fort. With the help of Manteo, these new colonists established relations with the Croatoan people. John White's daughter, Eleanor Dare, gave birth to a daughter, Virginia, the first English person born in America. With food supplies low, the colonists persuaded White to return to England for supplies. White departed, promising to return by spring.

Unfortunately for the Roanoke colonists, the global power struggle that precipitated the establishment of the colony probably also spelled the colony's doom. The Spanish

Armada continued to wreak havoc on English shipping, forcing Queen Elizabeth to discontinue further expeditions to North America for three years. White was forbidden to leave England. He finally returned to Roanoke Island in 1590, only to find the entire colony gone. The mystery of the "Lost Colony" remains one of the most fascinating pieces of North Carolina history. In 2012 historians located a symbol under a paper patch on one of John White's drawings, which may indicate a place the colonists may have headed toward when they left Roanoke.

BEYOND THE EXHIBITS
North Carolina Museum of History

To recap the Roanoke Voyages, take a look at the map below:



Carving "CRO"

For this activity, you'll need:

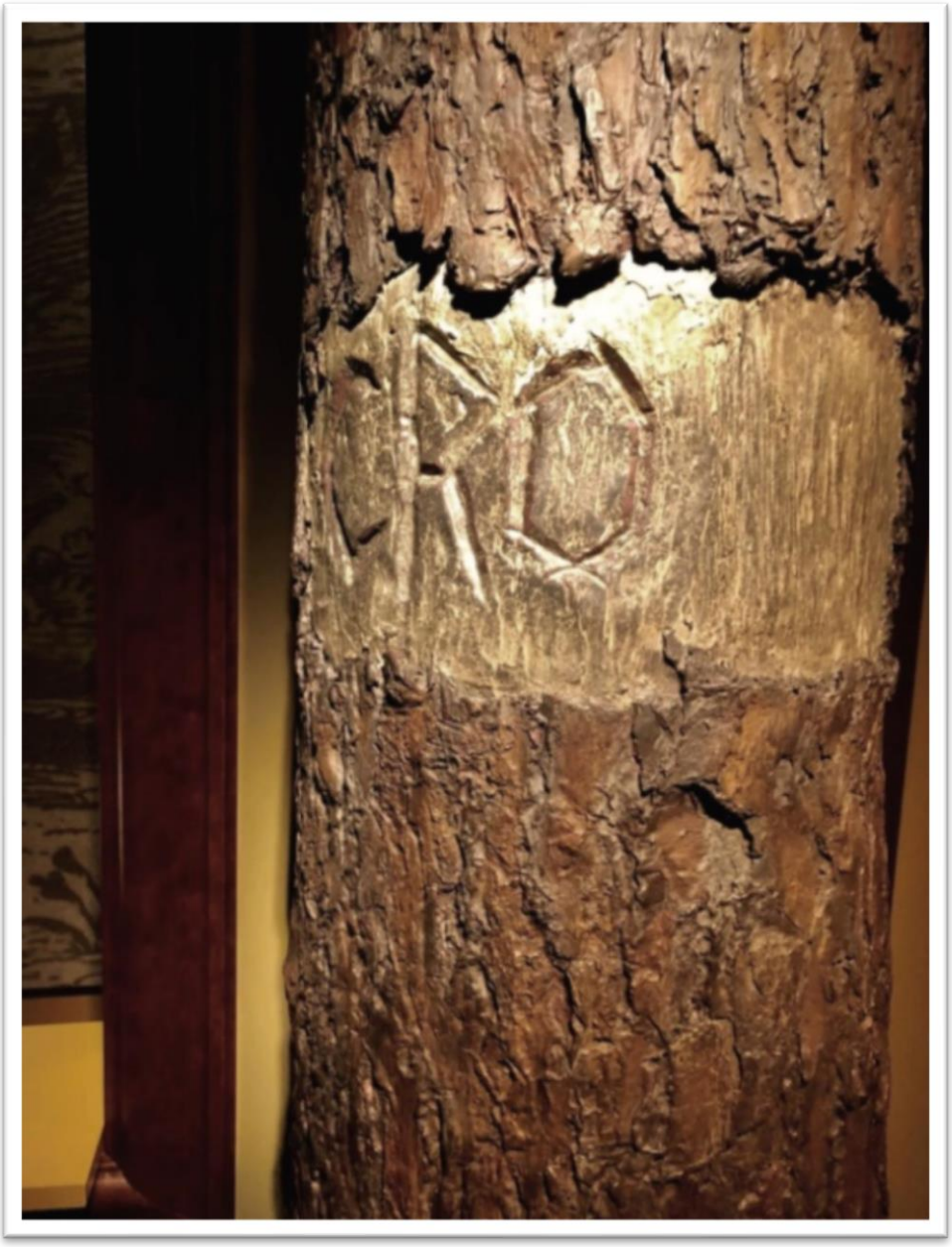
- A bar of soap
- Pencil
- Plain paper for planning out your carving
- Scissors
- Paintbrushes
- Soap-carving tool set **Make sure an adult is helping you with this step!*
- Paper towels or kitchen towel to catch the shavings

Now that you've read "The Roanoke Voyages" information, let's try to recreate the only sign left from the Lost Colony. But, instead of a tree, we're going to use a bar of soap!

1. First, lay out your paper towels or kitchen towel to help catch the shavings from your carvings.
2. Next, using a pencil, outline the bar of soap on a piece of plain paper.
3. Sketch a design within the outline of the soap. You can use the photo (on the next page) from the North Carolina Museum of History's *The Story of North Carolina* exhibit as inspiration.
4. Cut out the design and place it on top of the soap.
5. Use the pence to carve the outline into the soap.
6. Use the paintbrush to brush off some of the soap shavings.
7. Take the plastic knife and remove large chunks of soap that are outside the outline.
8. Use the paper clip (hold it closed, like a paring knife) to shave off some of the smaller pieces of the soap.
9. Find your pencil again and use that to carve details on the soap piece.

Stuck? The Metropolitan Museum of Art has a great tutorial to help!
https://www.youtube.com/watch?v=Y17RweezGi8.

BEYOND THE EXHIBITS
North Carolina Museum of History



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The Art of John White

By Suzanne Mewborn

Reprinted with permission from *Tar Heel Junior Historian* magazine, Fall 2007.

Tar Heel Junior Historian Association, NC Museum of History

If you travel to a new place, you probably will want to pack your suitcase with things like clothing, shoes, and shampoo. One item that you definitely want to include is your camera! Taking pictures of places and people reminds you of where you have been and whom you have met. Photographs document your trip and allow you to share your experiences with friends back home. Those who were part of the 1585 English expedition to Roanoke Island had the same idea in mind.

Seventy-five drawings that artist John White made on that trip have survived. White's drawings—each approximately 10 inches by five inches—give us a glimpse of the people living in present-day North Carolina more than 400 years ago. These sketches are our only visual record of the American Indians before European contact, and we are lucky to be able to view them today. In 1865 the drawings were in a warehouse that caught fire. They did not burn but did get soaked by water. For three weeks, they lay flattened by other books piled on top of them. When someone rescued White's drawings—which eventually ended up in the care of the British Museum—they found sheets of paper between them. "Offsets" of the original drawings had stamped onto these loose sheets of paper. The drawings were no doubt extremely bright and colorful before this blotting happened. White used watercolors to bring his pictures to life. Sometimes he even used gold and silver highlights, particularly when drawing fish. The gold and silver remain on the offsets, mirror images of the originals now bound into a volume. The original drawings have been preserved and individually framed.

While Thomas Harriot wrote detailed descriptions of the 1585 landscape so foreign to the English explorers, White sketched their observations. Harriot was a well-known author, mathematician, and astronomer. Sir Walter Raleigh paid him to teach Raleigh and his employees about navigation, in preparation for the first English voyages to the New World. References to Harriot's life and talents are fairly easy to find in historical records, but White largely remains a mystery. We do not know when or where he was born or died. Because John White is a relatively common name, it is challenging to find information about the John White who traveled to Roanoke. Also, few documents from that time survive. Despite our lack of knowledge about the man, we can see his talents for what the English called the fine gentlemanly skill of limning (another word for drawing and painting) in his work.

When studying these historical images, we must keep in mind that we are looking at early American Indians through an Englishman's eyes and mind. An interpretation is an explanation of the meaning behind a person's artistic or creative work. What was White's interpretation of the Indians? What did he want the audience of his time to see and learn from his drawings? And why are his drawings important today?

Europeans at the time viewed White's drawings as lifelike renderings of a very mysterious place. In addition to detailed portraits of the people living in what is now North Carolina, drawings included various plants and animals unfamiliar to Europeans. White created them with black lead or graphite during the expedition, and then probably filled them in with more detail and watercolor on board ship or the long voyage back to England. Modern conservators—people who care for, restore, and repair historical artifacts—at the British Museum have determined that the watercolor was applied after the paper was folded. White had folded his paper so that it would be easier to take along and use for sketching in the field.

The reasons behind White's artwork relate to the wave of voyages to the New World, when what we consider the modern age of history was beginning. The Portuguese, Spanish, French, and English wanted to find water routes to Asia. Water routes would make it easier to carry luxury goods back to sell in Europe. When Columbus landed in North America in 1492, he thought he was near India. In 1497 John Cabot claimed North America for the English monarch, and in 1524 and 1534, the French claimed different areas of the continent. But when Spain soon established colonies in the Caribbean and began exploring present-day Florida, the English really became fearful of Spanish power. The Spanish wanted complete control of North America and its natural resources.

Advisers began telling England's Queen Elizabeth I about some of the advantages of colonizing North America: blocking the Spanish, finding new trade routes, and having a place to send troubled soldiers and prisoners. One man arguing for colonization was Raleigh. Once the queen approved of his plan to send a group to the New World, Raleigh was sure to include the "skillful painter" White on the list of men who would go. White and Harriot gathered information similar to modern travel brochures.

White's images illustrated ways that the American Indians might be useful to English colonization. Europeans could see productive and welcoming inhabitants with ample food and land. Their villages were orderly, and they demonstrated their intelligence by using nature to survive and flourish. In White's drawing *The Indian village of Secoton*, houses appear along a central lane. There are trees on one side. On the other side, Indians have cleared land for planting. White shows three plantings of corn in different stages of growth: "corne newly sprong," "greene corne," and "rype corne." Three cornfields emphasize the productivity of land and food. White's images stress a natural abundance that would enable the English to survive and grow.

Another drawing that emphasizes the abundance of food in the New World is *Indians Fishing*. White shows American Indians in a canoe with fire between them. A fire was used to attract fish, particularly at night. In addition to other people in the background fishing with spears, White includes detailed drawings of various fish that the Indians might catch. Shellfish and a fish trap appear on the left side of the drawing, and birds are flying in the sky. White fills the page with signs of plentiful food. The Native people can feed themselves; maybe the English hoped that they could feed the colonists, too.

White also includes observations that might challenge English colonization and English relationships with the American Indians, such as religious differences. For example, White draws *An Ossuary Temple*, a building that houses bodies of deceased Indian chiefs that have been

mummified, a ritual that Christians do not perform. A squatting idol overlooks the preserved bodies, suggesting that the Indians were a pagan society that worshipped many different gods instead of Christians' single God. The lack of clothing worn by the Indians in the drawings shows the warm climate at Roanoke and differences from English customs. Two detailed drawings of villages indicate a relatively large Native population needing food and land of its own. Palisades surround one village, showing the American Indians' capability to make war and to protect themselves. These drawings served as a reminder to English settlers and investors of possible disagreements to overcome.

Despite the differences in clothing, language, religion, and social organization, White shows some similarities between the English and Indians. His portraits of elders and chiefs told interested colonists about more than just each individual subject. Overall, the people in the portraits are smiling, laughing, or talking. They wear ornaments such as necklaces, headbands, earrings, and feathers. The Indians' ornaments—such as bracelets and necklaces of copper and pearls—emphasized something in common with the English. Clothes and jewelry could identify American Indian leaders, just as they did English rulers and people of wealth. Think about portraits of Queen Elizabeth. She is covered with pearls, jewels, and rich fabrics. White's drawings of Indians include wood, fur, leather, shells, clay, stone, beads, and copper. Some of these materials were used to make weapons. White was sure to include them in his drawings as resources available in the New World. These resources were important for trading with American Indians or for making money by selling them back in Europe. White's drawing of *An Indian Man and Woman Eating* might suggest that both groups had social lives and organized gatherings, as also seen in *A Fire Ceremony. Indians Fishing* illustrates that, like the English, American Indians worked in teams.

White includes a variety of snapshots in his images: portraits, landscapes, detailed animal studies, and maps. People such as Theodor de Bry—an engraver working in Germany—later published versions of White's drawings in several languages. De Bry made changes, such as making the Indians' facial features, coloring, and poses look more like typical European portraits of the time. In the same way that a story changes with each person who tells it, the drawings changed, too.

The Art of John White
Image 1

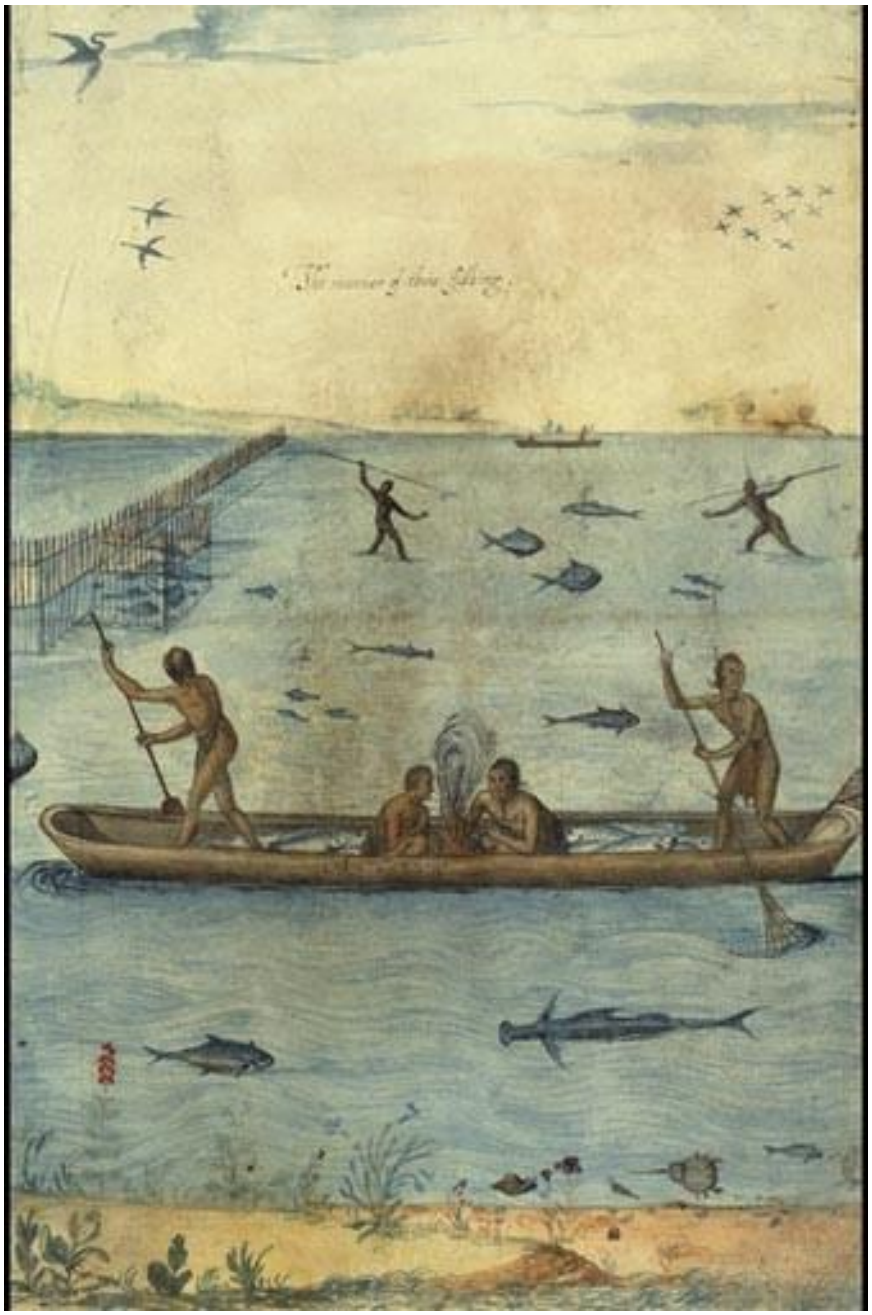

Image 1: John White, The manner of their fishing, ca. 1585–1593. © Trustees of the British Museum. http://www.virtualjamestown.org/images/white_debry_html/white42.html

The Art of John White
Image 2

Image 2: John White, A festive dance, ca. 1585–1593. © Trustees of the British Museum.
http://www.virtualjamestown.org/images/white_debry_html/white38.html

The Art of John White
Worksheet

1. White's paintings are more than 400 years old and have survived being scattered among collectors and damaged by fire and water. What does their odyssey tell us about primary sources? How would our understanding of the people of that time be without these images?

2. Why do you think Sir Walter Raleigh included John White, the "skillful painter," and Thomas Harriot, the scientist, on the 1585 expedition to Roanoke? What was the purpose of their work?

3. How do White's paintings represent the American Indians? In what ways are the Indians like the English? How are they different?

4. Do photographs allow for the interpretation we see in White's paintings? Why or why not?

5. What was left out of White's paintings? Why?